

CLAIMS

1. A data transmission system, comprising a transmitter and a receiver, 5 wherein the transmitter is arranged to send data bursts with a duty cycle of less than 5% at transmission timing points, the transmitter comprising a pseudo-random signal generator which governs the time delay between successive timing points and a local oscillator which controls the time of data transmission, and wherein the receiver comprises a corresponding pseudo-random signal generator and local oscillator, and wherein power is applied to the receiver substantially only corresponding in time to the timing of the data bursts.

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2. A system as claimed in claim 1, wherein the transmitter is arranged to send data bursts with a duty cycle of less than 1%. 15

3. A system as claimed in claim 1, wherein the transmitter and receiver each include a power source comprising a non-rechargeable battery.

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4. A system as claimed in claim 1, wherein each pseudo-random signal generator comprises a maximal length feedback shift register.

5. A system as claimed in claim 1, wherein each data burst comprises a header section and a data section, and wherein the header section for a sub- 25 set of the data bursts comprises a sequence which is unique to the header, thereby to enable receiver to obtain bit timing information.

6. A system as claimed in claim 1, wherein each data burst comprises a header section and a data section, and wherein the header section for a sub- 30 set of the data bursts comprises data defining the time period to the next message.

7. A system as claimed in claim 5, wherein the header comprises address data which identifies the transmitter to the receiver.

8. A system as claimed in claim 7, wherein the address data is used in combination with the pseudo-random signal generator to generate a modified pseudo random sequence.

9. A system as claimed in claim 1, wherein the transmitter is for attachment to a shoe, and comprises an accelerometer and a processing unit, the processing unit integrating the detected acceleration over time to obtain instantaneous speed values which are transmitted in the data bursts.

10. A system as claimed in claim 9, wherein the receiver is for wearing on the wrist of the user of the system.

11. A system as claimed in claim 1, wherein each local oscillator comprises a 32768Hz quartz oscillator.

12. A system as claimed in claim 6, wherein the header comprises address data which identifies the transmitter to the receiver.

13. A system as claimed in claim 12, wherein the address data is used in combination with the pseudo-random signal generator to generate a modified pseudo random sequence.